

WHAT IS CLAIMED IS:

1 1. A method for requesting access to a congested communication
2 node in a mesh communication packet network comprising:
3 withholding, at a requesting node, requests for access to said congested
4 communication node while awaiting receipt, at said requesting node, of a poll request
5 packet containing a first datum of information indicating availability of a communication
6 slot;
7 broadcasting from said congested communication node said poll request
8 packet when said congested communication node is ready to provide services; and
9 thereafter
10 directing from said requesting node a poll packet to request access to the
11 congested node.

1 2. The method according to claim 1, wherein the controlling node is a
2 more congested node, the method further comprising
3 broadcasting from the controlling node a packet which is operative to
4 request poll signals from those nodes desiring resources of the controlling node;
5 sending from the controlling nodes requests of optimally transmitting data
6 between the controlling node and the requesting nodes;
7 broadcasting a control packet with information from the congested node
8 that directs the requesting nodes when to send and receive data; and thereafter
9 causing each individual requesting node to transmit local data in turn to the
10 controlling node.

1 3. The method of claim 2 further including thereafter:
2 scheduling each individual requesting node which receives data from the
3 controlling node, if such data is available, as scheduled by the controlling node; thereafter
4 receiving at each individual requesting node acknowledgments of
5 corresponding individually transmitted data packets from the controlling node; and
6 thereafter

7 transmitting from each individual requesting node further
8 acknowledgments to receipt of data if data has been previously transmitted to it by the
9 controlling node.

1 4. The method according to claim 3 further comprising:
2 purging data packets from a transmitting node upon receipt of
3 acknowledgment of successful reception of said data packets.

1 5. An apparatus for requesting access to a congested communication
2 node in a mesh communication packet network comprising:
3 means for withholding, at a requesting node, requests for access to said
4 congested communication node while awaiting receipt, at said requesting node, of a poll
5 request packet containing a first datum of information indicating availability of a
6 communication slot;

7 broadcasting means for broadcasting from said congested communication
8 node said poll request packet when said congested node is ready to provide services; and
9 thereafter

10 means at said requesting node for directing from said requesting node a
11 poll packet to request access to the congested node.

1 6. The apparatus according to claim 5, wherein the controlling node is
2 a more congested node and wherein the controlling node is operative to broadcast a
3 packet requesting poll signals from the nodes desiring resources of the controlling node
4 and the controlling node is operative to have sent the requests of optimally transmitting
5 data between the controlling node and the requesting nodes, further comprising:

6 means operative to broadcast a control packet from the congested node
7 that directs the requesting nodes when to send and receive data packets; and

8 means to cause thereafter each individual requesting node to transmit its
9 data packets in turn to the controlling node.

1 7. The apparatus according to claim 6 further including:

2 means at said controlling node for scheduling transmitting times for each
3 individual requesting node which receives data from the controlling node, if such data is
4 available;

5 means for receiving at each individual requesting node acknowledgments
6 of corresponding individually transmitted data packets from the controlling node; and
7 means for transmitting from each individual requesting node further
8 acknowledgments to receipt of data if data has been previously transmitted to it by the
9 controlling node.

1 8. The apparatus according to claim 7 further comprising:
2 means for purging data packets from a transmitting node upon receipt of
3 acknowledgment of successful reception of said data packets.